Do Electrons Have Politics? Constructing User Identities in Swedish Electricity

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Electricity systems in many parts of Europe and the United States are currently undergoing transformations that have potentially profound implications for managerial practice and the politics of user identities within these systems. After more than a century of "universal service" that provided technical goods and services to all users on essentially equal terms, utility managers are now constructing and exploiting heterogeneity and difference among users. This article explores local managerial practices within Swedish electricity in the mid-1990s, where managers promoted "brand-name" electricity as a strategy for configuring identities for users, their utilities, and electricity itself. These dynamics are analyzed using theoretical perspectives from two bodies of science and technology studies on configuring users' identities. The article then analyzes the emergent practices and their theoretical and political implications for understanding of how and why artifacts, users, and organizational entities are coconstituted in ongoing technoscientific practice in infrastructural systems.

Keywords: *electricity; technoscience; users; branding; infrastructures*

A growing body of work within science and technology studies (S&TS) concerns the ways in which the identities of users are constructed and represented in technoscientific practice. An important focus of this work is to understand the processes by which technologies and user identities are coconstituted in evolving sociotechnical networks. It has been shown that

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designers, engineers, and other technoscientists often have specific expectations about the identities, needs, and preferences of the anticipated users of their technologies (Woolgar 1991; Oudshoorn 1994; Oudshoorn and Pinch 2003; Rose and Blume 2003). Akrich has suggested the concept of "script" or scenario to express how designers delegate and inscribe such expectations for their future users (Akrich 1992; Akrich and Latour 1992).

This article explores managerial attempts to coconstruct artifacts and users in a specific infrastructure that been rather anonymous until recently, namely, electricity. Specifically, I explore two "branding" campaigns by which utility managers in Sweden ascribed and promoted new identities for certain groups of users in the mid-1990s. To analyze this configuring and classifying of users the discussion draws upon two clusters of theoretical approaches. The first approach focuses on the *coconstitution of technologies and user identities* as briefly indicated above. The second approach focuses on *changing managerial practices and user-utility dynamics within infrastructures*, particularly electricity and water (Graham and Marvin 1994; Chappells et al. 2000; Graham 2000; Guy, Marvin, and Moss 2001; Shove and Chappells 2001; Coutard 2001). Specifically, the latter work attempts to capture emergent managerial practices such as the "splintering" of infrastructural networks (Guy, Graham, and Marvin 1997) and "infrastructural consumerism" (Graham 2000). Both of these phenomena refer to managers' attempts to identify and privilege certain users who are regarded as strong while bypassing other users who are viewed as less lucrative.

These theoretical perspectives are highly useful tools for critically analyzing recent managerial practices in technical infrastructures such as electricity. I will show the work of managers in representing, ascribing, and categorizing heterogeneous new identities for users, their firms, and electricity itself. How and why did managers employ branding as a strategy, what are the politics of these practices, and how can they be interpreted in light of recent S&TS work on the coconstitution of technologies and user identities?

Configuring and Differentiating Users in Infrastructural Systems—Two Perspectives

The coconstituting of artifacts and user identities in technoscientific practice has been described in numerous S&TS studies of specific technologies. These technologies include reproductive technologies (Oudshoorn 1994), vaccines (Rose and Blume 2003), computers (Woolgar 1991), and photoelectric lighting (Akrich 1992). Engineers, managers, and designers not only define the characteristics of the emergent artifacts but also "define actors

with specific tastes, competences, motives, aspirations, political prejudices and the rest" (Akrich 1992, 208). Akrich (1992) referred to these designer assumptions about users as *scripts* or scenarios whereby visions of both the projected user and the world in which artifacts and users are embedded are inscribed into the new technological object. This object then defines a "framework of action" that encompasses not only the object and intended actors but also the space that is formed by their intended interactions (p. 208). In a study of electrification in the Ivory Coast, Akrich showed how designers of the new network defined those actors with whom it would interact and ascribed specific roles to these actors. Consistent with actor-network perspectives on technoscientific practice (e.g., Latour 1987; Law and Hassard 1999), an important prerequisite of this work was "to interest and persuade" both human and nonhuman actants to play the roles that were envisioned for them. This strategy had clear political implications. For example, it embodied systematic exclusion of certain modes of representation and, presumably, certain actors (p. 214). The politics of these strategies were also expressed in clear differentiations among categories of users:

> Thus when an electricity company sets differential tariffs for high- and low-consuming domestic users, for workshops, and for industrial consumers, it finds ways of characterizing and identifying *different social strata* [italics added]. (P. 221)

How can the anticipated actants or users react to what is prescribed for them? Akrich and Latour (1992, 261) identified two alternative responses, namely, *subscription* or its opposite, *de-scription*. By subscription, the actants underwrite the prescribed program. By de-scription, they "try to extract themselves out of it or adjust their behavior or the setting through some negotiations" (p. 261). The response of de-scription is thus a strategy of resistance.

Managers may, however, strive to configure identities in additional ways. One aspect of "configuration work" (Oudshoorn and Pinch 2003) that has not been extensively discussed in the S&TS literature on users is how managerial practices may involve configuring the identities and roles of the managers themselves.[1] When working "to interest and persuade" specific groups of users, managers may construct images of themselves and their firms that embody the qualities that the presumptive users are assumed to value or prefer. These qualities may include reliability, service-mindedness, a "green" profile, or a low-cost policy. The projected image is constructed, represented, and inscribed onto the technologies according to the managers' visions of themselves and their desired interactions with specific groups of users. Man-

agerial and corporate identities are thus coconstituted in specific representations to these users.

Complementing this perspective on the coconfiguring of technologies, managers, and users, a second body of theoretical work focuses on changing dynamics and utility practices specifically in infrastructural systems. Since the 1980s, managerial practices in many infrastructural systems have evolved in ways that have important implications for social equity. Graham and Marvin (1994) pointed to how utility managers in postreform Great Britain in the 1990s increasingly employed sophisticated tools to differentiate and segment among users of electricity. Specifically, managers engaged in what Graham and Marvin (1994) referred to as *cherry picking* and *social dumping*. Cherry picking meant targeting the most lucrative users and devoting "ever-greater attention to meeting their every need" (p. 116), while social dumping refers to utility managers' attempts to ease out unprofitable or marginal domestic users from their networks. The targeting of attractive users often entails "lifestyle marketing" at specific socioeconomic groups and networked spaces (Guy, Graham, and Marvin 1997, 203). One result of these practices is the emergence of sophisticated means of identifying and categorizing users of infrastructures:

> Customers who consume regularly (and healthily), pay reliably, and utilise direct-debet facilities through bank accounts, are now the focus of concern. No longer classifying utility users simply in terms of their technical profile—their rate of consumption—utility consumers are now being classified through very sophisticated "geodemographic" profiles assessing their commercial value, lifestyle and value-added potential. (Guy, Graham, and Marvin 1997, 208)

The *splintering* of infrastructural networks in spatial, institutional, and social terms is expressed in niche marketing of goods and services to lucrative local users, as well as increased social polarization (Guy, Graham, and Marvin 1997). In Great Britain, these practices have been supported and sustained by utility services that have been designed exclusively for affluent presumptive users. Such users are given various forms of privileged access to certain services such as individualized tariffs and advice on energy matters. Graham (2000) referred to this type of diversification of consumer demand as the growth of *infrastructural consumerism*, by which niche markets and diverse *brands* of goods and services are used to construct heterogeneous and deeply political identities of users:

> Firms and quasi-firms are eager to use consumer segregation and geodemographic targeting techniques in the construction of diverse infrastructure "brands." . . . Infrastructure services become less and less a basic means to

> sustain modern urban life and more and more a means to support and construct diverse cultural identities and *symbolic identity politics* [italics added]. (P. 192)

Similarly, Chappells et al. (2000, 135) noted that "identity creation or image building" is becoming increasingly common among utility providers in parts of Great Britain and the Netherlands. In these practices, differentiating among goods, services, and tariffs is a crucial tool for achieving managers' goals of targeting and satisfying privileged users. The splintering of networks is expressed in increasing fragmentation of utility services and management practices (Chappells et al. 2000).

Before I explore similar utility practices in Sweden, the system in which Swedish managers and utilities are embedded will be briefly described.

Electricity Systems—Out of Anonymity?

Electricity has long been one of the most anonymous and standardized infrastructures of daily life in much of the world. For more than a century, successive generations of users have grown accustomed to consuming electricity without regard for the contingencies of its production or the identities of those managers and firms that provide it. As Guy and Shove (2000) observed,

> Perhaps it is the sheer familiarity of energy use, and its deep embeddedness in taken for granted patterns of everyday life, which makes it so especially elusive. (P. 5)

Power systems have been characterized by what can be referred to as a three-way anonymity. First, the nondifferentiated nature of the commodity of electricity itself is expressed in the fact that distinctions among brands of electricity have been nonexistent (as compared with multiple brands of other resources such as gasoline). Second, the managers and technoscientists who design, deliver, and sustain this infrastructure—as well as the utilities in which they are embedded—have been anonymous to most users. Indeed the main points of contact between utilities and users have been the electricity bill, the meter (Marvin, Chappells, and Guy 1999), and perhaps the occasional visit by the proverbial meter man in blue overalls. As Graham and Marvin (1994, 113) wryly noted, "We paid our bills with a lot of grumbling but very little public debate." Third, most users of electricity have long been anonymous, with their identities and practices hidden in black boxes of

collective subscriber categories such as A11 or D26. As long as "subscribers" have loyally paid their electricity bills, utility managers have typically not inquired about their preferences, needs, or concerns.

Historically, an important factor behind the homogenizing of user identities has been the ethos of universal service as a guiding principle of infrastructural provision. By *universal service* is meant the idea that all consumers are entitled to the same basic goods and services on essentially equal terms. Although the extent to which equal and universal access has prevailed in actual practice can be questioned (Graham 2000; Coutard 2001)—particularly in many developing countries[2]—the view of public infrastructures as providers "of and for the public good" has been a deeply embedded social, institutional and regulatory norm.

This situation has changed dramatically in many areas during the past two decades. Power systems have been institutionally reconfigured in many parts of the world, transforming the principles and practices that have traditionally sustained these systems (see, e.g., Midttun 1997; Hirsh 1999; Graham 2000). With the de-standardizing of artifacts and actors, long-standing manager-user dynamics are being reopened to new interpretations and negotiations. Considerable attention has been directed to highly visible macrosystem changes such as shifts in ownership, transnational alliances, and corporate acquisitions (see, e.g., Midttun 1997; Summerton 1998). Relatively little work has been done, however, to understand the profound changes in local managerial practices toward users that are currently emerging (Graham and Marvin 1994, 113).

Changes in Swedish Electricity in the 1990s—Reform and the Emergence of Branding

Swedes use a lot of electricity. On a per capita basis, they are the fourth largest consumers of electricity in the world, using more than twice as much power as their counterparts in Germany, France, and Great Britain.[3] One important factor behind this heavy consumption is sociopolitical. In the early 1980s, utility managers needed to find new markets for large quantities of politically sensitive nuclear power that was scheduled to come online within the next few years. Electric space heat—that is, using electric radiators to heat residential or commercial buildings—became an important market for this nuclear-fired electricity. The use of electricity increased by 5 percent annually from 1970 to 1986,[4] and electric space heating currently accounts for 35 percent of total electricity consumption in the residential, commercial, and service sectors.[5]

Like most sociotechnical systems (Hughes 1983; Summerton 1994; Kaijser 1994), Sweden's electric system has historically been characterized by a centralized, hierarchial structure in which utilities have enjoyed monopoly power within their designated service areas. Traditionally, users have been subscribers, essentially locked into their systems of provision and unable to choose where their power comes from, who delivers it, and on what terms. In Sweden, this situation was dramatically changed when an electricity reform was implemented in 1996. By the terms of the reform, generating utilities were no longer entitled to monopoly rights within their service areas. Instead, all users would be entitled—at least in principle—to choose among competitive utilities and to switch from one utility to another if desired.[6] All utilities were required by law to separate their operations for electric generation from their distribution operations. Generating utilities[7] were granted nondiscriminatory access to electricity grids throughout the country, and all consumers were ultimately given the legal right to choose among utilities and their respective goods and services. Notably, however, the Swedish reform did not make any provisions for reshaping the ownership structure within electricity. Although there were some three hundred generating utilities in the country at the time of the reform, the sector was (and is) dominated by a few large utilities, most notably the state-owned Vattenfall and private Sydkraft, which together account for more than 70 percent of total installed electrical capacity.

The formal regulatory change quickly became intertwined with new utility strategies, new types of local practice, and in some cases, shifts in manager-user relations. Numerous articles in the Swedish press pointed to the symbolic importance of these changes. Users were expected to make transitions from having been subscribers to becoming active customers. While the subscriber roll implied passivity and taken-for-grantedness, the customer roll would mean greater user choice and more demands placed on utilities.

As the reform agenda unfolded, utility managers in many generating utilities began designing new strategies for retaining their existing users while attracting and enrolling new ones. One of the most prevalent managerial strategies was developing and promoting "brand-name" electricity or *branding*. By branding is meant constructing a specific identity, image, or profile for one's own goods or services in ways that are intended to distinguish these goods and services from those of others.[8]

As Room (1998, 13) pointed out, branding is not a new phenomenon: the practice began centuries before the concept acquired its modern usage, as exemplified by early attempts among Greek and Roman shopkeepers to label or otherwise distinguish their wares (e.g., pottery, shoes, ironworks) from

those of others. It was not until the latter half of the nineteenth century, however, that modern branding concepts first started to be used in the United States and Europe. In Great Britain, the first Trade Mark Bill was drafted in 1862 and became law in 1875 (Murphy 1990, 18). During the 1880s and 1890s, many new brands emerged that are still deeply embedded in twenty-first-century Western culture, including Coca-Cola, Kodak, Ivory Soap, and Heinz baked beans (Murphy 1990, 19). Modern branding practices as prevalent today first emerged, however, in the post–World War II period, particularly from the mid-1980s (Klein 2000).

Branding is now a well-known corporate strategy for promoting a wide range of goods and services. The economic and cultural significance of the development of brands is underscored in Naomi Klein's (2000) insightful exposé, which begins with the following claim:

> The astronomical growth in the wealth and cultural influence of multinational corporations over the last fifteen years can arguably be traced back to a single, seemingly innocuous idea developed by management theorists in the mid-1980s: that successful corporations must primarily produce brands, as opposed to products. (P. 3)

As Suchman (2000) and others have pointed out, branding entails creating difference not on the basis of actual distinctions in goods and services but in their "packaging and association with recognizable images." In branding, what is important is the *image* and *visibility* that a company conveys to potential users about the intended profile and virtue of the commodity. As Hankinson and Cowking (1996, 2) noted, successful brands "build relationships with the target consumer." The ability of the brand to fulfill the consumers needs by offering the right combination of attributes and symbolic values is crucial to success. In a recent analysis, a well-known expert on branding emphasizes the emotive aspect of the practice:

> I believe that it is the *emotional* aspect of products and their distinguishing systems that will be the key difference between consumers' ultimate choice and the price they will pay. By emotional I mean how a brand engages consumers on the level of the senses and emotions; how a brand comes to life for people and forces a deeper, lasting connection. . . . Corporations must take definite steps toward building *connections* and *relationships* which recognize their customers as partners. . . . Welcome to the world of Emotional Branding, a dynamic cocktail of anthropology, imagination, sensory experiences, and visionary approach to change! (Gobé 2001, xiv-xv)

Successful branding entails "anticipating and shaping consumer needs and desires" (Murphy 1990, 7). For many corporations, branding is also a

means of explicitly building consumer loyalties (Murphy 1990, 14). Notably for this discussion about Swedish branding of electricity, the concept of branding has recently been extended from promoting goods to promoting services. In the United States and Western Europe, the increase in branded services now reportedly exceeds that in branded goods (Murphy 1990, 4). This trend is intertwined with an increase in advertising. According to the 1998 United Nations Human Development Report, the growth in spending in global advertising now outpaces the growth of the world economy by one-third (cited in Klein 2000, 9).

Campaigns for branding electricity began to emerge in Sweden in the mid-1990s.[9] A leading electricity magazine argued for the importance of branding in battles over electricity users:

> Not only price but also electricity's image will be increasingly significant for households' choice of electricity supplier in the future. . . . If you are not seen, you do not exist—that is the simple rule of thumb. Concepts such as brand-name profiles and commodification will become increasingly important components in the battles over residential consumers.[10]

One Swedish utility manager even predicted that the "image" of electricity would account for about 30 percent of the user's criteria when choosing his or her electricity supplier, as compared with about 10 percent for perceptions of the company's service![11] Echoing Gobé (2001) and others (see Klein 2000, 20), another Swedish manager underscored the role of emotions as distinct from—and more important than—"facts":

> We need to make (our company) more well known among the general public. We need to emphasize emotions more than facts.[12]

Utility advertising budgets in Sweden increased dramatically, and the marketing of branded electricity reportedly became the country's most rapidly expanding area of commercial advertising.[13]

In the following, I describe two branding campaigns that emerged in Sweden in 1995 and 1996. These campaigns are, first, the Spektra campaign that was carried out by Sweden's second largest utility, Sydkraft; and second, the Advantage campaign that was conducted by a coalition of municipal utilities. The data sources for the discussion are analysis of extensive written materials (e.g., brochures and other campaign materials; policy documents; articles in the specialized press); and interviews with utility managers, sales representatives, distribution engineers, and other actors who were involved in the campaigns.

Launching the Spektra Campaign

> The problem wasn't that our customers didn't like us—it was that they didn't know who we were . . . people just didn't *have* any relation to their power company.
>
> —Manager, Sydkraft electricity sales, telephone interview, May 15, 2000

This manager's reflection expresses the pervasive uncertainty and anonymity that many utility managers in Sweden were experiencing in their "relationships" with users in the mid-1990s. With the electricity reform pending and its implications largely unknown, many managers were worried about how users would respond to the new situation of consumer choice. At the time that its Spektra campaign was launched, Sydkraft had a large service area that encompassed some 270,000 residential customers. A large number of additional customers received power from some fifty retail distributors who were under contract to Sydkraft. Most of these customers were located in southern Sweden, which has traditionally been Sydkraft's primary distribution area.

Sydkraft officially launched its Spektra campaign in spring 1995, while the national reform legislation was pending but still not yet implemented. For several years, Sydkraft's managers had conducted annual customer surveys with the help of telephone interviews, written surveys, and public information meetings. One explicit aim of these efforts was to acquire information on customers' images of their utility. The results were clearly disappointing. First, there were indications of a virtual absence among most users of any image of their utility whatsoever. The majority of users did not express any opinion at all about their utility. Second, among those relatively few customers who did express an opinion, both positive and negative images could be discerned. On one hand, Sydkraft was associated with "reliability," "professionalism," and "the company which electrified the countryside." On the other hand, customers expressed a number of negative attributes such as "large and expensive," "inflexible," "bureaucratic," "nonresponsive," and "monopolistic." These consumer images were stable indicators in Sydkraft's various surveys from the late 1980s on.[14]

It was clear that the utility's image was considerably less positive than managers wanted it to be. Utility managers wanted to redefine this image and establish the utility more broadly as a "service and knowledge company."[15] The leading manager for the Spektra campaign commented,

> We wanted to work against the image of us as inflexible and bureaucratic—that is, to change the weak values. We wanted to build an identity of Sydkraft as responsive . . . to show indications of a willingness to adapt to customers, to offer freedom of choice, and to show flexibility.[16]

Notably, Sydkraft's customer surveys also revealed certain patterns of electricity consumption among different groups of residential users. In particular, customers expressed different preferences and needs for various utility services. Moreover, these preferences and needs did not follow age or sex variables but instead appeared to be coupled to two characteristics of residential users and their electricity use. These characteristics were (1) users' housing situation, that is, whether the user lived in an apartment, single-family home, and/or leisure home; and (2) the type of heating system that the users had in their home, that is, whether the user had electric space heating, an oil boiler, or a so-called "combisystem" for flexible use of electricity or oil. Specifically, two emergent groups of residential users could be identified as having relatively "high involvement" with electricity, namely,

- users who lived in single-family homes and used electricity for space heating (and who therefore had high levels of electricity consumption and high electricity bills); and
- users who had so-called combisystems for flexible use of electricity or oil in their boilers, depending upon the relative prices of the fuels.

The first group, in particular, was reportedly most "engaged" in issues about their electricity supply. According to Sydkraft's interpretations of the survey results, these users tended to be both knowledgeable and to place a high value upon having freedom of choice. At the time the Spektra campaign was introduced, this group consisted of about 35 to 40 percent of the company's residential customers.

The Spektra campaign was designed on the basis of these representations of user identities and assumed "levels of engagement." The purpose of the campaign was to

- explicitly differentiate among various groups of users,
- target specific groups for certain types of goods and services, and
- offer utility packages that addressed these groups' ascribed preferences and needs.

While all subscribers had been offered the same level of service on monopoly markets, managers now viewed it important to prioritize the "strongest" users—that is, those who were viewed as the most lucrative

users. These users were to be found in the two groups of "engaged" residential users above, both of whom had notably high levels of consumption. The underlying strategy of the Spektra campaign was to build stronger ties with these customers and to strengthen their loyalties to the company.[17] Expressed in corporate terms, the goal was to develop an "added-value strategy" that in a long-term perspective would create "the most satisfied and most profitable customers on the residential market."[18] The strategy of targeting specific groups for specific services would also be more cost-effective. This was because a range of expensive, expanded services would be offered only to selected groups of residential users. Simply expressed, the higher the user's level of consumption, the more services she or he would be offered. In other words, the user collective would be segmented by tariff levels and service adjusted accordingly.

This managerial practice is a clear example of "splintering" of the utility's network (Guy, Graham, and Marvin 1997). It also entailed the conscious "cherry picking" of lucrative users (Graham and Marvin 1994). The strategy of differentiation was also accompanied by specific branding of Spektra electricity as well, as will be seen in the following section.

What Color Are Your Electrons?— Promoting Spektra, Representing Users

What did the Spektra brand name entail, and how was it promoted? The first step in developing the Spektra campaign was to dissolve all preexisting standardized tariff categories (such as D11, D15, and D26) as well as the standardized general services that had accompanied these tariffs. The old tariff categories were replaced with "color categories" for different types of electricity use that were derived on the basis of specific criteria. The criteria for defining electricity included such things as the type of housing it was used in, the amount of electricity that was consumed, and how this electricity was used (that is, whether electricity was used only for lighting/appliances or also used for space heating).

The next step was to match these "colors" of electricity use profiles with different "colors" of users. These users and their electricity use were then defined according to the nature and volume of their consumption:

"White Electricity—for the customer who uses only base electricity" (i.e., for appliances, lighting);
"Yellow Electricity—for the customer who uses electricity in a leisure home";
"Blue Electricity—for the customer who uses electricity in a combisystem" (electricity and oil); and

"Red Electricity—for the customer who uses electricity for both appliances, lighting and space heating."[19]

Within each color category, users were offered specific goods, services, and privileges. The privileges were derived on the basis of managers' expectations about the specific needs of users in each category. Each category was tied to a tailored "standard package" of services that were offered to this category of users. The services included, for example, information on electricity use and energy savings, differential billing procedures, and access to a question-and-answer telephone service. In addition to "their own" standard packages, users in each color category were also entitled to purchase additional services. Notably, the heaviest consumers (red customers) were offered more additional services than any other category, while the lowest-consuming customers (white customers) were entitled to few extended privileges.

In the spring of 1995, Sydkraft presented its matched categories of users and services in a colorful, ten-page brochure that was distributed to all of the utility's residential customers. Like the rest of the Spektra campaign, this brochure had been designed with the help of a professional advertising agency. The front page of the brochure boasted the bold heading "The Greatest News since Electricity Was Invented." It depicted a young man who was leaning expectantly toward the inside of the brochure as if wanting to open it. The brochure then presented four attractive, dancing individuals, each of whom was clad solely in the colors of the electricity that she or he was intended to represent. Thus, an older woman who was dressed totally in white (and who had white hair) was a symbol for "white electricity users," while a younger man dressed totally in yellow (and with bright yellow hair) represented "yellow electricity users." Similarly, the man and woman who represented blue and red electricity, respectively, were dressed from head to toe in the corresponding colors. Each colored person was accompanied by a text that described the relevant user profile and the specific goods and services that users in this color category were entitled to enjoy. All of the depicted people were represented as active and happy. Seemingly elated about the opportunity offered to them, they posed excitedly in various stages of dance throughout the brochure.[20]

Notably, Sydkraft's visual representations of these users were not neutral with regard to various ethnic, age, class, and gender stereotypes. All of the people were white and appeared to belong to Sweden's comfortable working or middle classes. They did not have visible disabilities of any kind. Furthermore, the person who symbolized "blue users," that is, those who had combi-systems for flexible switching between electricity and oil, was an older man dressed in what appeared to be blue overalls. The image conveys the impres-

sion of someone actively working with his power supply. Perhaps the implication is that pensioners have more time for actively monitoring their basement boilers as a means of watching their wallets and stretching out their pensions. Meanwhile, the relatively young woman who was among the highest-consuming "red users" was very stylishly dressed in a short red skirt, red tights, and red heels. Hers was a decidedly more sophisticated image than the drably dressed, older woman who represented the "white users" of basic usage. Rather than spending time in the boiler room like the blue pensioner, the red woman appeared affluent and on-the-move, an impression that was reinforced by her windblown hair.

Besides this brochure, Spektra was also promoted in regular articles in Sydkraft's customer newsletter *Kundkontakt* (Customer Contact). In the campaign, it was specifically the high-consuming red users who were offered the company's "most generous offering of service, information and options." Significantly, many of these offerings were in fact not new services. Instead, managers' intentions were primarily to underscore and make visible the various services and privileges that Sydkraft's customers already received but were perhaps not aware of. Also, no reductions in the price of electricity were offered; instead, the focus was on various types of administrative services.[21]

Consistent with Akrich (1992), the work of Spektra's managers in classifying and branding "colors" of users entailed creating and inscribing visions of the projected users and the world in which they were embedded. These visions were shaped into a script that embodied managers' assumptions about these users and defined those with whom managers wanted to interact, specifically lucrative, high-consuming residential users. Managers interpreted and represented these users' concerns and needs for such things as reliability, low-cost electricity, and various services. They inscribed certain gender preferences and delegated specific roles for specific users.

Users' Responses

Initially, users' responses to the Spektra brand name and its packages appeared to be enthusiastic. On the day that the brochure was released, Sydkraft's telephone exchange was reportedly swamped by interested callers. However, by fall 1996, when the utility contracted the Swedish Gallup organization for a systematic evaluation, the results were considerably less positive. Although many of the respondents were favorable to the campaign, a majority still appeared "unengaged." Only about one-fourth of the polled users had chosen one of the service options that they had been offered, and just more than one-third of all users in various types of single-family homes (that is, mostly the red and blue users) had made active choices of some kind.

Despite all managerial efforts, electricity seemed to remain an infrastructural commodity with low user engagement.

Similarly, Sydkraft's subsequent attempt in 1996 and 1997 to extend the Spektra brand name to a "step II" campaign that would be marketed and implemented by retail distributors in southern Sweden[22] did not meet with success.[23] By the winter of 1998-99, Sydkraft had made the decision to discontinue promoting Spektra as a brand name for its electricity. Instead, a new corporate branding strategy, using the Sydkraft corporate name, was developed and promoted with the help of a new logo in January 1999. The branding of types of electricity and corresponding types of users was abandoned.

There are indications, however, that the managerial approach that was first extensively developed in the Spektra campaign—that is, to differentiate between various groups of users, ascribe preferences to these users, and offer them profiled goods and services—continues to be applied and refined in various corporate strategies. An example is behavioral and lifestyle segmenting, by which various representations of users (such as "security seekers," "individualists") are used to categorize heterogeneous identities of users and their presumed needs, interests, and preferences. As Graham (2000, 92) noted, the profiling of users is utilized to construct and support various forms of identity politics.

Energy Close to You— The Advantage Campaign

> Basically, our core product is so boring . . . so complementary products around it are even more boring (or at least as boring). If you're not interested in electricity, you're not interested in an energy-efficient coffee maker.
>
> —Manager, Tekniska Verken i Linköping, interview, June 8, 2000

The Advantage brand-name campaign (known as "Fördel" in Swedish) was developed by utility managers and their advertising consultants in the mid-1990s. Like Spektra, this campaign was part of managers' efforts to compete for users' loyalties on postreform electricity markets. The campaign emerged from a series of discussions among an informal network of directors of seven municipal utilities in central and southern Sweden.[24] The directors shared a scenario of being able to play strong, offensive roles on changing Nordic electricity markets. As part of this scenario, the seven utilities formed an alliance as a means to strengthen their positions vis-à-vis other powerful

utilities. These utilities were explicitly the two large utilities Vattenfall and Sydkraft. A cooperative effort, it was reasoned, would also allow for sharing the heavy costs of developing, marketing, and distributing new types of goods and services. Similar to Spektra's managers, the municipal directors made a conscious choice to focus on services rather than competitive pricing. As one manager frankly noted,

> Among else, this approach was specifically to *not* have to lower our prices, which would be to dig our own graves. . . . We have to be able to survive with the prices we have.[25]

The idea behind the Advantage campaign was to create a common framework for promoting goods and services within the utilities' respective service areas while also allowing for specific local services. The core image of their utilities that managers wanted to promote was local services by local providers, emphasizing aspects such as geographic proximity, reliability, and a long tradition of public service. Advantage was designed as a loyalty program that provided advantages to its users. The message to be conveyed to users was, "We are reliable and close at hand—stay with us!"

To develop the Advantage campaign, utility managers contracted an advertising agency[26] that conducted a pilot study of a sampling of consumers in the fall of 1995. A total of two hundred telephone interviews were carried out and analyzed with regard to what "types" of users were responsive, what services that these users valued, and what the users were willing to pay for such services.[27] A number of other market surveys were conducted as well. All of these surveys indicated that "there is a clear difference between various consumer groups with regard to their interest in energy issues and their willingness to adjust their energy consumption for reasons of cost."[28] The directors also explicitly analyzed the Spektra program and other competing brand-name campaigns in Sweden at the time.[29] In the words of one utility manager, the emerging Advantage brand name became a way to "give our product a profile, give it an identity."[30]

Advantage in Local Practice—Services and Symphonies

The Advantage campaign was officially directed to all of the utilities' residential electricity users.[31] However, interviews with managers confirm that in practice, one specific group of users was implicitly targeted, namely, owners of single-family houses.[32] This group (which also included heavy consumers with electric space heat) was identified as the most lucrative one among resi-

dential users. These users were also defined as a high-risk group. They were attractive to other utilities and could be expected to actively explore the possibility of switching to another utility. An important goal of the Advantage campaign was to strengthen these users' loyalties to their local utilities. As one manager noted, "We wanted to strengthen our ties with our existing customers, to bind them closer to us."[33]

Managers' expectations for the campaign are indicated in a memo from August 1995:

1. Increase our competitive capacity on a deregulated market. We are to be attractive suppliers of energy
2. Increase the loyalty of existing customers; customer care
3. Increase the profitability of the consumer segment
4. Make the value of electricity more distinctly visible.[34]

To reach these goals, utility managers designed a package of services that the participating utilities would provide to users who became Advantage club members. These services included new billing procedures, annual energy statistics, energy saving tips, discounts on selected electric appliances and other products in local stores, as well as emergency round-the-clock assistance in the event that the home freezer broke down. The services were complemented with local services from the specific utilities. Similar to the Spektra program, most of the Advantage services were already being offered by the utilities but were viewed as largely invisible to users. One of the few new services was an opportunity to donate a small portion of the Advantage membership fee to a "local environmental fund."

The Advantage package was officially launched at a national press conference in May 1996, less than six months after Sweden's electricity reform had been implemented. As expressed in the various press and marketing materials, the core message was that Advantage symbolized an opportunity for users to gain such things as security, better energy economy, and a better environment. The front page of the initial Advantage brochure, which was mailed to all residential users in the utilities' service areas, was eye-catching. It depicted a man dressed as a genie and rising in a cloud of smoke from an oil lamp. Next to the genie was a heading in bold print that read, "Take a close look at your energy costs." A small boy (who was white, blonde, and well dressed) was sitting on the floor next to the genie, looking up at him with interest and wonder. Superimposed over the genie's smoke, a membership card was prominently displayed with the words, "Advantage—energy close to you." The next page of the brochure highlighted keywords that reflected the core promises of the program: economic savings, better service, in-

creased convenience and security, special discounts, and a better environment. Elsewhere, a figurative genie was depicted bowing next to a bold heading that promoted better service. The implication was that the genie was at the service of his Aladdin-like users. Like all other campaign materials, the brochure carefully enumerated the various services that were included in the Advantage membership fee.

This brochure was the first of many promotional materials that utility managers and their advertising consultants designed and distributed to their residential users. Among other things, the campaign consisted of promotions that were inserted into billing envelopes, articles in utility newsletters, and specially developed newsletters. In addition, managers organized "Advantage evenings" for targeted groups of users. At these meetings, managers presented and discussed specific themes that they viewed as relevant to residential users' needs and concerns, such as ways to conserve energy and energy for kids.

Thus, managers' scripts (Akrich 1992) for the Advantage campaign embodied assumptions about the users with whom the managers wanted to interact as well as envisioned roles for these users. These assumptions also included users' gender-related preferences with regard to initiatives about electricity choice. As one utility spokesperson commented, women were viewed as an important group to enroll and retain because they are presumably "often the ones who initiate households' efforts to improve their energy situation or to switch energy supplier."[35]

A few years after the Advantage program was introduced, managers conducted a systematic evaluation of the campaign. The results showed that the targeted users generally viewed the program as a weak package that had a rather limited range of goods and services. Users' responses were weak in nearly all of the utilities' service areas. Most users had not responded at all, and the majority of those who had responded were pensioners. For example, in the town of Linköping, only one thousand of the local utility's twenty-one thousand single-family homeowners had signed up for Advantage membership during the most active phase of the program, and most of these homeowners were pensioners. As a result of these and other disappointing results, managers in several of the participating utilities were reluctant to continue to commit organizational resources to the program's high operating costs. Also, as a manager in Linköping's public utility observed, a change in user priorities was perceived:

> In our view, it appears that the "service" idea has lost a lot of its attractiveness on the current electricity market, which is increasingly focused on price—and

> competing through price. For consumers, the value of administrative services is limited as compared with a lower electricity price.[36]

By the winter of 1998-99, several of the utilities had stopped actively promoting the Advantage program, although some continued to offer its services free of charge. An example of the latter was the utility in Norrköping, which initially chose to refine and expand its program. The core image of the utility's identity that managers wanted to promote was security. As one manager commented, "Above all, we want our customers to feel secure in our hands . . . to feel trust."[37] Somewhat ironically, many of the utility's non-energy-related goods and services proved to be much more popular among residential users than energy services. Examples are discounts to cultural and sport events such as symphonies with the local orchestra and hockey games with the local team. While discounts to cultural events were targeted at women, discounts to sport events were aimed primarily at men. These cultural and sporting stereotypes were clear expressions of utility managers' explicitly gendered constructions of users' preferences.

Another utility that initially chose to revise and continue its program was Öresund kraft (formerly Helsingborg Energi) in southern Sweden. The utility reshaped its program into a more explicit "customer care" package of services that were offered to the largest and most active users. Starting in January 2000, all residential users whose electricity consumption exceeded a certain level and who actively signed contracts with the utility were automatically labeled as "Advantage customers" and ascribed with VIP status. A utility manager emphasized the importance of the program for shaping a new sense of identity among users:

> I think that we have succeeded in getting these customers to realize that they mean something. They come into our company store and say proudly, "I am an Advantage customer." They have received an identity.[38]

This manager also noted, however, that many users continue to be relatively uninterested in electricity issues. In some cases, the targeted users "don't know that they are Advantage customers."[39]

Conclusion: User Identities, Resistance, and the Politics of Difference

> Before, we electricity companies were a mix of God and electrician, because we brought electricity and electricity was the modern society. . . . Now one

must keep an eye on competitors . . . and build a relationship with customers so that they feel secure.[40]

The Swedish branding programs for electricity are examples of the ways in which technologies and user identities are coconstituted and performed in technoscientific practice. Both programs sought to "build relationships with customers" in a previously naturalized, invisible infrastructure by constructing and promoting new images for both artifacts and heterogeneous groups of users. Managers constructed scripts (Akrich 1992) that embodied managers' representations and expectations with regard to users' preferences and actions. These preferences and actions were clearly gender-, race-, and age-related. They represented attempts on the part of managers to define and delegate roles to specific groups of users. An important goal was to reformulate and strengthen preexisting relationships between managers and users by constructing new, seemingly enticing, identities for managers and their firms. These cases indicate an important aspect of identity formation that has been largely overlooked within the S&TS literature on coconstitution of artifacts and users, namely, that such dynamics may also encompass attempts to coconstitute (new) identities for the spokespersons of the technology, namely, the firms, managers, and technoscientists themselves.

Recent work in S&TS on users also emphasizes the multiplicity of actors who are engaged in the "configuration work" by which users and technologies are coconstructed (see, for example, Oudshoorn and Pinch 2003). In addition to the designers of technologies as identified by Woolgar (1991) and others, spokespersons for users also include journalists, public sector agencies, and social movements (Oudshoorn and Pinch 2003) as well as states (Rose and Blume 2003). The Swedish electricity cases contribute an additional category of spokespersons in the form of the managers of technical infrastructures.

It is striking, however, that despite the heterogeneous efforts of utility managers, the two branding programs were essentially failures. Managers tried hard to "splinter" their utility networks (Guy, Graham, and Marvin 1997) by creating and exploiting differences among groups of users, but these users refused to be persuaded and enrolled. Most users remained unengaged or—alternatively—"chose not to choose" in accordance with managers' scripts. The Spektra and Advantage stories are clear examples of user resistance to managerial attempts to represent their identities, preferences, and practices and to reformulate their relationships to utilities. Expressed in Akrich and Latour's (1992, 261) terms, users engaged in de-scription: they chose to reject or renegotiate the script that the managers had intended for them. The empirical material does not provide a basis for interpreting the

nature of this resistance (for example, whether users expressed lack of engagement or an active refusal to assume the roles and follow the scripts that managers had intended for them). These cases nevertheless point to the importance of recognizing the agency of users as subjects rather than as mere objects of designers' or technoscientists' ambitions and scenarios.

Perhaps part of the explanation for users' resistance might be their perception that the managers' "coats of many colors" of electricity were not much more than thinly disguised emperor's new clothes. The technical goods and services that managers offered were to a great extent not new at all. Instead they were traditional, preexisting infrastructural services that managers wanted to "make visible" to users. Also, although the two campaigns represented an important shift in utility practices, it can be argued that they did not herald a fundamental change in the way in which managers categorize users. Several of the "new" user categories were deceptively close to the utilities' traditional boxes of standardized tariff categories for different subscriber groups.

Nevertheless, the Swedish cases of branding electricity can nevertheless be seen as examples of more general, emergent sociopolitical trends in technical infrastructures in which "branding" and differentiating among users are integral parts of corporate strategies. What can the Swedish cases contribute to the understanding of the politics of coconstituting users and user identities in such managerial practices? There are at least three implications. First, these practices undermine the twin ethos of universal service and user anonymity that has traditionally guided technical infrastructures. Until now, consumers in most areas have been guaranteed nondiscriminatory, equal access to basic infrastructural goods and services. The anonymity of users within a nondifferentiated "user collective" is an important prerequisite for this nondiscriminatory access. The branding of infrastructural goods and services and the targeting of specific groups of users replaces the idea of universal service with an ethos of privileged access for certain users and not others.

These managerial practices can in turn be situated within broad shifts from collective to individualized concepts of personal identity and service provision in many other areas as well. Examples of such shifts can be seen in education, health care, retirement, and even prisons. In the Swedish electricity cases, however, even electrons were individualized and given specific identities. The "branding" of electricity illustrates the performance of differentiated concepts of identity not only in the realm of policy but also in terms of the technical artifacts themselves.[41]

A second, deeply political implication of these managerial practices is that they were explicit attempts to reformulate the politics of user choice. Rather than encourage users to choose among alternative utilities as intended

by the expressed goals of the Swedish electricity reform, managers wanted users to be "loyal" and choose only among their traditional utility's goods and services. Managers sought to discourage consumer mobility and *deepen* users' dependencies by further embedding these users in preexisting utility networks. This represents an interesting inversion of the reform: rather than helping users to choose their preferred utility, the utility managers were actively engaged in choosing their preferred users.

Finally, a third expression of the "practical politics" (Bowker and Star 1999) of the Swedish cases concerns the ways in which the new classifications of users embodied deeply political assumptions and values on the part of managers. To the extent that these new classifications coincided with specific social strata and were accompanied by privileges that were differentially available to specific groups, the two campaigns were less about consumer choice and more about class and privilege. Those electricity users who were most lucrative to managers were provided with privileged access to exclusive goods and services that were often not made available to groups that were viewed as less lucrative. Also, managers' representations of users' identities embodied specific assumptions about race, gender, and disability: all of the targeted users in the campaigns were represented as white, visibly healthy, and nondisabled. There was no apparent accommodation for other users who did not identify with these representations or were rendered invisible by them—those actors whom Clarke (1998) has referred to as "implicated actors." The empirical material does not indicate that managers recognized the exclusionary character of their representations. The cases show the importance of exploring the power dynamics and patterns of nonuse (Wyatt 2000) that characterize many technologies as highlighted in recent S&TS work on users.

Bowker and Star (1999) reminded us that classifications in technical infrastructures are indeed powerful sites for political work. The ongoing reconfiguring of many infrastructures provides a valuable opportunity for social scientists to expose the practices and politics of managers and others who seek to constitute and exploit a politics of difference among users. Much work remains to be done, however, to understand the ecologies of user practices in actively resisting the best-laid plans of managers.

Notes

1. For a fruitful analysis of the coproduction of facts and "scientists-in-the-making" in a study of contingent processes of learning and participation, see Hall (1999).

2. Electricity is not an ubiquitous technology in many areas of the world: an estimated 2 billion people still lack access to electric lighting. I thank Evan Mills for this information.

3. Specifically, Sweden consumes about 16,500 kWh/person. The average electricity consumption for EU member countries is 60 percent below Swedish consumption. For a discussion, see Swedish National Energy Administration, "Electricity Market 2000," Publication no. ET 18 (Eskilstuna, Sweden: 2000), 36-37.

4. See Swedish National Energy Administration, *Energiläget 2000* (Sundbyberg, Sweden: Alfa-Print AB), 8.

5. For a discussion of electric space heating and other trends in Swedish electricity consumption, see Swedish National Energy Administration, "Electricity Market 2000," 8-9.

6. It was not until 1999, however, that the Swedish Parliament voted to remove the requirement that end users must install costly hour-by-hour meters as a prerequisite for switching electricity supplier.

7. In this article, "generating utilities" will be referred to as "utilities" unless otherwise indicated, and the utilities that are discussed are generating utilities.

8. The economic and business literature on branding is extensive: my Web searches indicated at least five hundred references within various databases, and a visit to a reputable business school library revealed several shelves of how-to volumes on branding. With a few exceptions (e.g., Klein 2000; Suchman 2000), critical social science literature appears, however, to be limited to date.

9. Besides Spektra, these campaigns included the "Live Locally" program under the auspices of some thirty-eight local utilities and the state Vattenfall's "Two Holes in the Wall" campaign.

10. See "Elkundens val styrs av nya varumärken" [Electricity Customer's Choice Is Steered by New Brand Names], *Elektricitetens rationella användning, ERA*, no. 8 (1996): 16.

11. Ibid.

12. J. Johansson, cited in "Elmarknadens nya ansikte" [The New Face of the Electricity Market], *Energitidningen*, no. 2 (1995): 9.

13. See "Elkundens val styrs av nya varumärken," *Elektricitetens rationella användning, ERA*, no. 8 (1997): 16.

14. Manager, Sydkraft, telephone interview, May 15, 2000.

15. Sydkraft PM, "Varumärkesstrategi—konsensusdokument 9705" (memorandum, n.d.), p. 1.

16. Manager, Sydkraft, telephone interview, May 15, 2000.

17. Ibid. See "Sydkraft sätter färg på elektricitet" [Sydkraft Adds Color to Electricity], *Energimagasinet*, no. 3 (1995): 44-45.

18. See also Sydkraft PM, "Positionering av SPEKTRA bostadsel" [Positioning SPEKTRA residential electricity] (memorandum, n.d.), p. 1.

19. See Sydkraft brochure "Största nyheten sedan elektriciteten uppfanns" [The Greatest News since Electricity Was Discovered], April 1995. Notably, Sydkraft's spectrum did not include any green colors, which is perhaps due to the fact that the company's power base consists primarily of nuclear power and hydropower.

20. Ibid.

21. In fact, electricity prices for all residential users were routinely increased about six months after the campaign was launched, resulting in an estimated 3 to 4 percent increase in annual consumer costs for electricity. See Sydkraft, "Nya priser för bostadsel" [New Prices for Residential Electricity], *Kundkontakt*, no. 3 (1995): 14.

22. See, for example, "Lönsamhet viktigast i Sydkrafts affärer" [Profitability Most Important in Sydkraft's Business Ventures], *Elektricitetens rationella användning, ERA*, no. 3 (1995): 12-13; Sydkraft PM, "Profilering av SPEKTRA som slutkundskoncept och återförsäljarkoncept"

[Profiling SPEKTRA as an End User Concept and Distributing Retailer Concept] (memorandum, n.d.).

23. Manager, Sydkraft, telephone interview, June 5, 2000.

24. These utilities were Helsingborg Energi, Kalmar Energi & Miljö, Landskrona Elförsäljnings AB, Lunds Energi, Norrköping Energi, Tekniska Verken i Linköping, and Växjö Energi (note, however, that some companies have changed names and/or owners since the time of the campaign).

25. Manager, Öresunds kraft, telephone interview, May 23, 2000.

26. Notably, this agency was identical to the agency contracted by Sydkraft for its Spektra campaign.

27. For details, see Addit Research AB, "Marknadsundersökning Ny produktstrategi—hösten 1995" [Market Study New Product Strategy—Fall 1995] (memorandum, Gothenburg, Sweden, December 1995).

28. Addit Research AB, "Marknadsstrategi för energitjänster mot konsument—version 2, 24 augusti 1995" [Market Study for Energy Services for Consumers—Version 2, August 24, 1995] (memorandum), pp. 9-10.

29. PM, "Utvecklingsmöte gällande produktstrategin med kundtjänstpersonal den 14/11 - 95" [Development Meeting concerning Product Strategy with Customer Service Personnel, November 14, 1995] (memorandum).

30. Manager, Norrköping miljö och energi, telephone interview, June 5, 2000.

31. At the time, residential electricity users represented about one-third of the utilities' total sales volumes.

32. Manager, Öresunds kraft, telephone interview, May 23, 2000; manager and customer service representative, Tekniska Verken i Linköping, interview, June 8, 2000; manager, Norrköping miljö och energi, telephone interview, June 5, 2000.

33. Manager, Norrköping miljö och energi, telephone interview, June 5, 2000.

34. Addit Research AB, "Marknadsstrategi för energitjänster mot konsument—version 2, 24 augusti 1995," p. 2.

35. Residential customer manager, Norrköping miljö och energi, telephone interview, June 5, 2000.

36. Manager, Tekniska Verken i Linköping, interview, June 8, 2000.

37. Residential customer manager, Norrköping miljö och energi, telephone interview, June 5, 2000.

38. Manager, Öresunds kraft, telephone interview, May 23, 2000.

39. Ibid.

40. Manager, Norrköping miljö och energi, interview, December 1, 2000.

41. I thank Mark Brown for this point.

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